Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (**Currently Amended**) A quasi-amorphous pyroelectric compound, comprising:

a metal, a mixture of metals, or a semi conducting compound lacking spatial periodicity;

said quasi-amorphous pyroelectric compound being an inorganic, ~~quasi-amorphous~~ oxide compound having piezoelectric properties;

said quasi-amorphous pyroelectric compound being a product of application of a mechanical strain to a substantially amorphous compound, said mechanical strain being controlled so as to prevent crystallization of said compound.

2. (**Withdrawn-Currently Amended**) The quasi-amorphous compound of claim 1 having the formula (AxB1-x)pOn, wherein A and B are independently selected from transitions metals, elements of Group IVA of the periodic table, alkali metals, alkali earth metals and rare earth metals; x has values of between 0 to 1; p is an integer having the values 1, 2 or 3; and n is an integer having the value of 1, 2, 3 or 4.

3. (**Withdrawn-Currently Amended**) The quasi-amorphous compound of claim 2, wherein A is a transition metal or an element of Group IVA of the periodic table, x is 1 and p is 2.

4. (**Currently Amended**) The quasi-amorphous compound of claim 1, having the formula $(A_xB_{1-x})(C_yD_{1-y})O_n$ wherein A and B are independently selected from alkali metals, alkali earth metals, rare earth metals and elements of Group IVA of the periodic table; C and D are independently selected from transition metals and alkali earth metals; x and y have values of between 0 to 1; and n is an integer having the value of 1, 2 or 3.

5. (**Currently Amended**) The quasi-amorphous compound of claim 4, wherein A and B are independently selected from Ba, Sr, Ca, Pb, La, Eu, Li, Na, K and Cs ; C and D are independently selected from Ti, Zr, Nb, Ta, Sc, Mg and V; and n is 3.

6. (**Withdrawn-Currently Amended**) The quasi-amorphous compound of claim 5, wherein A and B are independently selected from Ba, Sr, Ca, Pb, La and Eu.

7. (**Currently Amended**) The quasi-amorphous compound of claim 5, wherein A and B are independently selected from Li, Na, K and Cs.

8. (**Currently Amended**) The quasi-amorphous compound of claim 5, wherein C and D are independently selected from Ti and Zr.

9. (**Currently Amended**) The quasi-amorphous compound of claim 6, wherein C and D are independently selected from Ti and Zr.

10. (**Currently Amended**) The quasi-amorphous compound of claim 7, wherein C and D are independently selected from Ti and Zr.

11. (**Currently Amended**) The quasi-amorphous compound of claim 5, wherein C and D are independently selected from Nb, Ta, Sc, Mg and V.

12. (**Currently Amended**) The quasi-amorphous compound of claim 6, wherein C and D are independently selected from Nb, Ta and V.

13. (**Currently Amended**) The quasi-amorphous compound of claim 7, wherein C and D are independently selected from Nb, Ta and V.

14. (**Original**) Inorganic, quasi-amorphous compound of claim 4, wherein y=0 and having the formula $(A_xB_{1-x})DO_3$, wherein A, B, D and x are as defined in claim 4.

15. (**Currently Amended**) The quasi-amorphous compound of claim 4 having a pyroelectric coefficient of between about 10^{-12} C/(cm^2 x K) and about 10^{-7} C/(cm^2 x K).

16. (**Currently Amended**) The quasi-amorphous compound of claim 14 having a pyroelectric coefficient of between about 10^{-12} C/(cm^2 x K) and about 10^{-7} C/(cm^2 x K).

17. (**Currently Amended**) The quasi-amorphous compound of claim 4 selected from $BaTiO_3$, $CaTiO_3$, $PbTiO_3$, $Pb(ZrTi)O_3$, $Pb(Zr_{0.35}Ti_{0.65})O_3$, $(PbCa)TiO_3$, $(PbLa)(ZrTi)O_3$, $PbLaTiO_3$, $Pb(ScTa)O_3$, $Pb(ScNb)O_3$, $Pb(MgNb)O_3$, $SrTiO_3$, $(Sr_{0.65},Ba_{0.35})TiO_3$, $(Ba_{0.70},Sr_{0.30})TiO_3$ and $EuTiO_3$.

18. (**Currently Amended**) The quasi-amorphous compound of claim 17 having a pyroelectric coefficient of between about 10^{-12} C/(cm^2 x K) and about 10^{-7} C/(cm^2 x K).

19. (**Currently Amended**) The quasi-amorphous compound of claim 17 being selected from $BaTiO_3$, $PbTiO_3$ and $SrTiO_3$.

20. (**Currently Amended**) The quasi-amorphous compound of claim 18 being $BaTiO_3$.

Claims 21-23. (**Cancelled**)

24. (**Previously Presented**) Inorganic quasi-amorphous compound of the formula (AxB1-x)(CyD1-y)O3,

wherein A and B are independently selected from alkali metals, alkali earth metals, rare earth metals and elements of Group IVA of the periodic table;

C and D are independently selected from transition metals and alkali earth metals;

x and y have values of between 0 to 1;

lacking spatial periodicity; and

wherein said compound is a product of applying a mechanical strain to a substantially amorphous compound of the formula (AxB1-x)(CyD1-y)On wherein n is an integer having the value of 1, 2 or 3, said mechanical strain being controlled so as to prevent crystallization of said compound, thereby obtaining inorganic quasi-amorphous compound having pyroelectric properties.

25. (**Currently Amended**) A device comprising the quasi-amorphous compound according to claim 1 in the form of a film coating on a substrate.

26. (**Currently Amended**) A device comprising the quasi-amorphous compound according to claim 4 in the form of a film coating on a substrate.

27. (**Original**) The device of claim 26, wherein the substrate is selected from Si, SiO_2 and glass.

28. (**Original**) The device of claim 27, wherein the thickness of the coating layer is below 0.5 micron.

29. (**Currently Amended**) A device comprising the quasi-amorphous compound of claim 1, the device being operable as a sensor for sensing an external field including at least one of the following: temperature field, magnetic field and electric field.

30. (**Currently Amended**) A device comprising the quasi-amorphous compound of claim 4, the device being operable as a sensor for sensing an external field including at least one of the following: temperature field, magnetic field and electric field.

31. (**Currently Amended**) A device having an acoustic wave propagation element including the quasi-amorphous compound of claim 1.

32. (**Currently Amended**) A device having an acoustic wave propagation element including the quasi-amorphous compound of claim 4.

33. (**Currently Amended**) A device having an acoustic wave propagation element including the quasi-amorphous compound of claim 5.

34. (**Currently Amended**) A birefringent medium comprising the quasi-amorphous compound of claim 1.

35. (**Currently Amended**) A birefringent medium comprising the quasi-amorphous compound of claim 4.

Claim 36 (**Cancelled**).

Claim 37 (**Cancelled**).

38. (**Withdrawn-Currently Amended**) A device comprising a quasi-amorphous compound according to claim 3 in the form of a film coating on a substrate.

39. (**Withdrawn**) The device of claim 38, wherein the substrate is selected from Si, SiO2 and glass.

40. (**Currently Amended-Withdrawn**) The device of claim 39, wherein the quasi-amorphous compound is SiO2.

41. (**Currently Amended**) The quasi-amorphous pyroelectric compound of claim 1, which is a non-crystalline ionic solid having macroscopic polarization.

42. (**New**) A quasi-amorphous pyroelectric compound comprising a metal, a mixture of metals, or a semiconducting compound lacking spatial periodicity;

a. said quasi-amorphous pyroelectric compound being an inorganic oxide compound having piezoelectric properties, said pyroelectric compound being in the form of a film;

b. said quasi-amorphous pyroelectric compound being produced by applying a mechanical strain to a substantially amorphous compound, said mechanical strain comprising passing said film through a steep unidirectional temperature gradient generating a gradient of mechanical strain, said strain gradient having one in-plane component along the temperature gradient and one out-of-plane component, said out-of-plane component inducing a stable orientation of the molecular grouping due to compressive stress from the in-plane component; and

c. said temperature gradient being controlled so as to prevent crystallization of the amorphous compound, thereby obtaining highly stressed amorphous films.

43. (**New**) A quasi-amorphous pyroelectric compound comprising a metal, a mixture of metals, or a semiconducting compound lacking spatial periodicity;

a. said quasi-amorphous pyroelectric compound being an inorganic oxide compound having piezoelectric properties;

b. said pyroelectric compound being a produced by applying a mechanical strain to a substantially amorphous compound;

c. said pyroelectric compound being made of a material having an asymmetric preferred direction;

d. said piezoelectric properties being stress induced dipole ordering; and

e. said mechanical strain being controlled so as to prevent crystallization of said compound.